



°CELSIUS
PROPERTY GROUP



STRUCTURE PLAN

LOT 9012 JAYES ROAD, PIARA WATERS

SPN2344 06/07/2023

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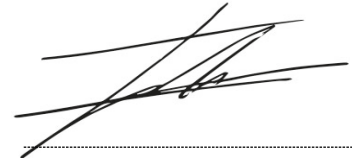
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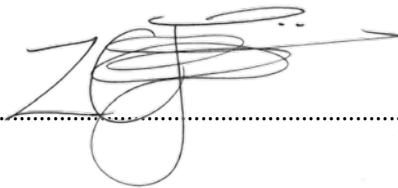
Record of Endorsement

This Structure Plan is prepared under the provisions of the City of Armadale Town Planning Scheme No. 4.

It is certified that Lot 9012 Jayes Road Piara Waters Local Structure Plan was approved by resolution of the Western Australian Planning Commission on:

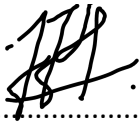
08 September 2023

Signed on behalf of the Western Australian Planning Commission



.....

an officer of the Commission duly authorised by the Commission pursuant to Section 24 of the *Planning and Development Act 2005* for that purpose, in the presence of:



..... Witness

12 September 2023 Date

12 September 2033 Date of Expiry

Table of Amendments

Amendment No.	Summary of the Amendment	Amendment Type	Date Approved by WAPC

Executive Summary

This Structure Plan applies to Lot 9012 Jayes Road, Piara Waters ('the subject land'), comprising approximately 5.67 hectares of land adjacent to existing residential development to the east of Jayes Road (the C.Y O'Connor Village residential estate), and the C.Y O'Connor Tavern and commercial centre, located north of the subject land. The land is zoned 'Urban' under the Metropolitan Scheme ('MRS') and was the subject of a Local Planning Scheme Amendment (Scheme Amendment 119) that rezoned the land to 'Urban Development' zone under the City of Armadale Town Planning Scheme No. 4 ('TPS 4') in 2022.

The Structure Plan area is located approximately 19.3 kilometres south of the Perth Central Business District, 10 kilometres north-west of the Armadale District Centre, and 6.7 kilometres east of the Cockburn District Centre. The subject land forms part of the 'West Piara Urban Precinct North', which represents the western edge of the City of Armadale's jurisdiction, and which was rezoned 'Urban Development' zone under TPS 4 in December 2022 by Scheme Amendment 119.

The objective of this Structure Plan is to facilitate the development of the subject land for residential purposes. The Structure Plan is therefore prepared to satisfy the requirements of TPS 4, and the associated Structure Planning provisions included as part of Scheme Amendment 119, as well as the *Planning and Development (Local Planning Schemes) Regulations 2015*, to facilitate subdivision and development of the Structure Plan Area.

The Structure Plan will provide for the logical extension of the established residential development in Piara Waters, on the south-eastern side of Warton Road.

Structure Plan Summary

Item	Data	Section Reference
Total area covered by the Structure Plan	5.67 hectares	1.2.2
Area of each land use proposed: - Residential	3.57 hectares 86 lots	4.3
Total estimated lot yield	86 lots	4.3
Estimated number of dwellings	86 dwellings	4.3
Estimated residential site density	24.3 dwellings per site hectare	4.3
Estimated population	259 people	4.3
Estimated area and percentage of public open space given over to: - Public Open Space	- 0.704 hectares	4.2

Note: All information and areas are approximate only and are subject to survey and detailed design.

Contents

Part 1: Implementation Section

1.	Structure Plan Area	2
2.	Operation	2
3.	Staging	2
4.	Subdivision & Development Requirements	2
5.	Local Development Plans	3
6.	Other Requirements	3
7.	Additional Information	4

Part 2: Explanatory Section

1.	Planning Background.....	7
1.1	Introduction & Purpose	7
1.2	Land Description	8
1.2.1	Location.....	8
1.2.2	Legal Description & Ownership	8
1.2.3	Area & Land Use	8
1.3	Background.....	13
1.4	Pre-Lodgement Consultation.....	13
2.	Planning Framework.....	14
2.1	Zoning & Reservations.....	14
2.1.1	Metropolitan Region Scheme.....	14
2.1.2	City of Armadale Town Planning Scheme No. 4	14
2.2	Planning Strategies	18
2.2.1	South Metropolitan Peel Sub-Regional Planning Framework.....	18
2.2.2	City of Armadale Local Planning Strategy.....	18
2.3	State Planning Policies.....	19
2.3.1	State Planning Policy 2.3 – Jandakot Groundwater Protection	19
2.3.2	Draft State Planning Policy 2.9 – Planning for Water	19
2.3.3	State Planning Policy 3 – Urban Growth and Settlement	20
2.3.4	State Planning Policy 3.7 – Planning in Bushfire Prone Areas	20
2.3.5	State Planning Policy 5.4 – Road and Rail Noise	20
2.3.6	Liveable Neighbourhoods	21
2.3.7	Draft Development Control Policy 4.3 – Planning for High Pressure Gas Pipelines .	21
2.4	Local Planning Policies.....	22
2.4.1	Local Planning Policy 2.4 – Landscape Feature and Tree Preservation	22
2.4.2	Local Planning Policy 2.9 – Landscaping.....	22
2.4.3	Local Planning Policy 3.10 – Residential Design Codes Variations and R-MD Codes	23
3.	Site Conditions & Constraints.....	24
3.1	Biodiversity & Natural Area Assets	24
3.1.1	Flora & Vegetation	24
3.1.2	Fauna.....	24
3.1.3	Wetlands	24

3.2	Landform & Soils	25
3.2.1	Acid Sulphate Soils.....	25
3.2.2	Contamination	25
3.2.3	Mosquito Management.....	25
3.3	Groundwater & Surface Water	26
3.3.1	Groundwater	26
3.3.2	Surface Water	26
3.3.3	Public Drinking Water Source Areas.....	26
3.4	Bushfire Hazard.....	26
3.5	Heritage	27
3.5.1	Aboriginal Heritage.....	27
3.5.2	European Heritage	27
3.6	Environmental Noise	27
3.6.1	Kennel Noise	28
3.6.2	Road Traffic Noise.....	28
4.	Land Use & Subdivision Requirements	29
4.1	Land Use.....	29
4.2	Residential.....	29
4.3	Public Open Space	30
4.3.1	Southampton Drive Closure.....	30
4.4	Movement Network	32
4.4.1	Existing Road Network	32
4.4.2	Proposed Road Network.....	32
4.4.3	Pedestrian And Cycle Network.....	33
4.4.4	Public Transport.....	34
4.5	Water Management	34
4.5.1	Local Water Management Strategy	34
4.5.2	Stormwater Management Strategy	34
4.5.3	Groundwater Management Strategy	35
4.5.4	P3* Water Quality Protection Measures.....	35
4.5.5	Urban Water Management Plan	37
4.6	Education Facilities.....	38
4.7	Activity Centres & Employment.....	38
4.8	Infrastructure Coordination, Servicing & Staging.....	38
4.8.1	Power	38
4.8.2	Water	39
4.8.3	Reticulated Sewer	39
4.8.4	Reticulated Gas	39
4.8.5	Telecommunications.....	39
4.8.6	Siteworks And Earthworks.....	39
4.9	Developer Contribution Arrangements.....	40

Figures

1.	Regional Location	9
2.	Local Location	10
3.	Context Plan.....	11
4.	Site Plan	12
5.	Metropolitan Region Scheme Zoning Plan.....	16
6.	City of Armadale Town Planning Scheme No. 4 Zoning Plan	17

Tables

1.	Project Team
2.	Summary of Land
3.	Scheme Amendment 119 Provisions
4.	Bushfire Compliance Table
5.	Public Open Space Schedule
6.	Proposed Road Classifications
7.	Water Quality Protection Measures for P3* Drinking Water Source Areas

Technical Appendices

Appendix Number	Document Title	Nature of Document	Referral/Approval Agency	Approval Status and Modifications
1	Certificate of Title	Supporting	-	-
2	Feature Survey	Supporting	-	-
3	Local Water Management Strategy	Requires Approval	DWER and City of Armadale	Approved
4	Bushfire Management Plan	Requires Approval	DFES and City of Armadale	Approved
5	Noise Impact Assessment	Requires Approval	City of Armadale	Approved
6	Preliminary Tree Report	Supporting	-	-
7	Landscape Master Plan	Supporting	-	-
8	Environmental Assessment Report	Supporting	-	-
9	Subdivision Concept Plan	Supporting	-	-
10	Traffic Impact Assessment	Supporting	-	-
11	Engineering Servicing Report	Supporting	-	-



PART ONE

Implementation



ROWE
GROUP
DESIGN

1. Structure Plan Area

This Structure Plan applies to Lot 9012 Jayes Road, Piara Waters, being the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map (Refer Plan 1 situated at the end of Part 1 of this Structure Plan report).

2. Operation

In accordance with Schedule 2, Part 4 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, this Structure Plan shall come into operation when it is approved by the Western Australian Planning Commission ('WAPC') pursuant to Schedule 2, Part 4, Clause 22 of the Regulations.

3. Staging

The Structure Plan Area may be developed in a single stage, noting that there are no specific infrastructure triggers that would require staging of the development.

4. Subdivision & Development Requirements

4.1 Land Use & Zones

The Structure Plan Map (Plan 1) outlines land uses, zones and reserves applicable to the Structure Plan Area. Land use permissibility within the Structure Plan Area shall be in accordance with the corresponding zone or reserve under the City of Armadale Town Planning Scheme No. 4.

4.2 Residential

4.2.1 Dwelling Target

In accordance with Liveable Neighbourhoods, the Structure Plan Area shall provide for a minimum average of 22 dwellings per site hectare and 15 dwellings per gross urban hectare.

4.2.2 Density

Residential densities applicable to the Structure Plan shall be those residential densities shown on the Structure Plan Map.

4.3 Public Open Space

The Structure Plan is to provide a minimum 10 percent public open space, in accordance with the WAPC's Liveable Neighbourhoods requirements.

Public open space is to be provided generally in accordance with the Structure Plan Map (Plan 1).

4.4 Southampton Drive Realignment

The existing Southampton Drive is to be realigned to continue through the Structure Plan Area and intersect with Warton Road. A condition of subdivision approval will require detailed engineering plans to be submitted to the City of Armadale detailing the following:

- a) The removal of the existing pavement and kerbing on Southampton Drive;



- b) The realigned Southampton Drive reserve, including pavement, kerbing and services;
- c) The required works to realign the intersections with Pipeline Boulevard and Paspalum Street; and
- d) Landscaping and drainage works.

All construction works associated with the realignment of Southampton Drive are to be undertaken at the cost of the developer.

5. Local Development Plans

Local Development Plans ('LDP') may be prepared and implemented pursuant to Part 6 of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* for lots comprising one or more of the following attributes:

- a) Lots abutting public open space reserves or landscaped areas; and
- b) Lots subject to a 'Quiet House Design' package requirement as identified in the Noise Impact Assessment.

6. Other Requirements

6.1 Fire Management

This Structure Plan is supported by a Bushfire Management Plan. Any development on land within the Structure Plan area shall be constructed in accordance with the recommendations made by the Bushfire Management Plan and shall comply with the requirements of Australian Standard 3959 - Construction of Buildings in Bushfire Prone Areas.

6.2 Notifications on Title

In respect to applications to subdivide land within the Structure Plan Area, the City of Armadale may recommend to the WAPC that a condition be imposed as part of the subdivision approval for a notification to be placed on Certificates of Title(s) to advise the following (where applicable):

- a) Land or lots deemed to be affected by road traffic noise as identified in the Noise Impact Assessment (contained within Attachment 5 to this Report);
- b) Land or lots deemed to be affected by dog kennel noise as identified in the Noise Impact Assessment (contained within Attachment 5 to this Report); and/or
- c) Land or lots deemed to be by bushfire risk and subject to the management practices set out in the Bushfire Management Plan (contained within Attachment 4 to this Report).

6.3 Development Contributions

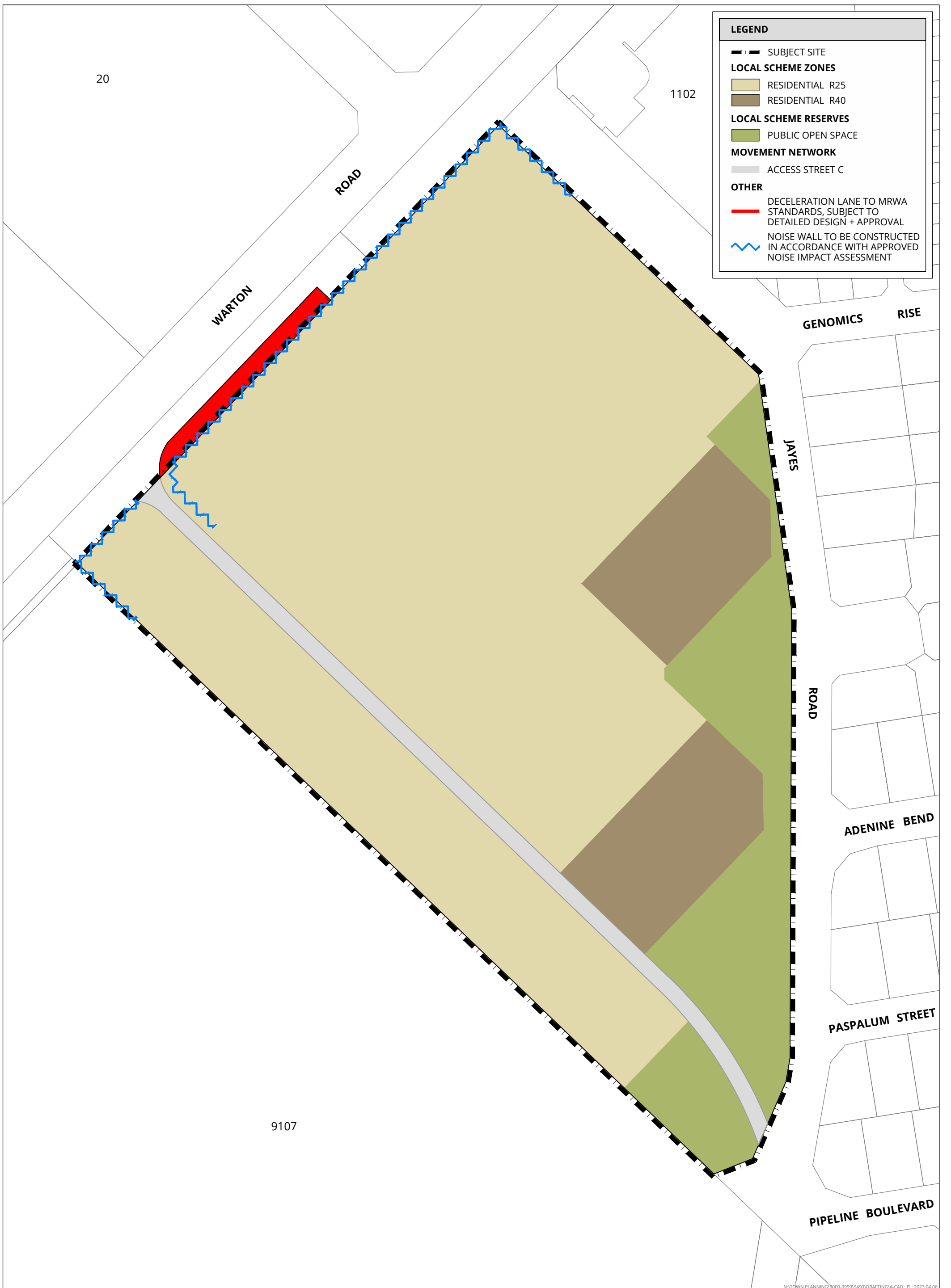
The Structure Plan Area is subject to contribution to the costs of common infrastructure in accordance with a Development Contribution Plan and Cost Apportionment Schedule prepared pursuant to Part 5A and Schedule 9B Development Contribution Plans.



7. Additional Information

Additional Information	Approval Stage	Consultation Required
Bushfire Management Plan	Subdivision Application	City of Armadale
Local Development Plan	Condition of Subdivision or Development Approval	City of Armadale
Urban Water Management Plan	Condition of Subdivision or Development Approval	Department of Water and Environmental Regulation and City of Armadale
Noise Wall Design	Condition of Subdivision or Development Approval	City of Armadale
Southampton Drive Realignment Construction Drawings	Condition of Subdivision or Development Approval	City of Armadale
Mosquito Management Plan	Condition of Subdivision or Development Approval	City of Armadale
Landscape Master Plan	Condition of Subdivision or Development Approval	City of Armadale





LEGEND

- SUBJECT SITE
- LOCAL SCHEME ZONES**
- RESIDENTIAL R25
- RESIDENTIAL R40
- LOCAL SCHEME RESERVES**
- PUBLIC OPEN SPACE
- MOVEMENT NETWORK**
- ACCESS STREET C
- OTHER**
- DECELERATION LANE TO MRWA STANDARDS, SUBJECT TO DETAILED DESIGN + APPROVAL
- NOISE WALL TO BE CONSTRUCTED IN ACCORDANCE WITH APPROVED NOISE IMPACT ASSESSMENT



PART TWO

Explanatory Section



ROWE
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DESIGN

1. Planning Background

1.1 Introduction & Purpose

This Structure Plan is prepared on behalf of Celsius Land, the developer of Lot 9012 Jayes Road, Piara Waters ('the Structure Plan Area'). The Structure Plan Area is bound by Warton Road to its western boundary, the existing (and redeveloping) C. Y. O'Connor Tavern to its northern boundary, established residential development (the C.Y. O'Connor Village) to its eastern boundary and the approved and under construction Providence Lifestyle Village to its southern boundary.

The purpose of this Structure Plan is to facilitate the subdivision and development of the subject land for residential purposes. The Structure Plan has been prepared in accordance with the City of Armadale Town Planning Scheme No. 4 ('TPS 4'), including the Structure Planning (Schedule 8) provisions introduced by Scheme Amendment 119, the *Planning and Development (Local Planning Scheme) Regulations 2015* ('Regulations') and the WAPC's Liveable Neighbourhoods operational policy.

The objectives of the Structure Plan are to:

- Provide a framework to guide the use, subdivision and development of the land to create a high quality, liveable urban precinct;
- Provide for appropriate residential development that responds to its surrounds, including the existing tavern operations, Warton Road and the approved lifestyle village development; and
- Provide for a linear public open space reserve promoting pedestrian connectivity for the broader West Piara Waters locality.

The following multidisciplinary project team has been engaged by the proponent to progress the preparation of the Structure Plan:

Discipline	Consultant
Town Planning & Urban Design	Rowe Group
Project Management	Celsius Land
Civil Engineering	Peritas Group
Hydrology	WaterInsight
Environment	Western Environmental
Landscape	Plan-E
Survey	MNG
Traffic & Access	Transcore
Acoustic	Lloyd George Acoustics
Bushfire	Allerding Associates
Arborist	Arboribus

Table 1: Project Team.

Rowe Group is the primary contact for all matters relating to the Structure Plan submission.



1.2 Land Description

1.2.1 Location

The Structure Plan Area is located approximately 19.3 kilometres south of the Perth Central Business District, 10 kilometres north-west of the Armadale District Centre, and 6.7 kilometres east of the Cockburn District Centre. Nicholson Road is located approximately 415 metres north east of the subject land, and Armadale Road, a Primary Regional Road, is located approximately 2.3 kilometres south of the subject land.

Refer Figure 1 – Regional Location.

The Structure Plan Area is bound by Warton Road to its west, the existing C.Y. O'Connor Tavern to its north, the established C.Y. O'Connor Village residential estate to its east and the approved Providence Lifestyle Village to its south. The Lifestyle Village is currently under construction. Land west of Warton Road is zoned 'Rural – Water Protection' under the Metropolitan Region Scheme ('MRS'), and comprises rural living uses that include kennels and catteries.

Refer Figure 2 – Local Location.

The land forms part of the broader 'West Piara Urban Precinct' and was recently rezoned to 'Urban' under the MRS and is progressively being developed by individual proponents for urban/ residential land uses.

Refer Figure 3 – Context Plan.

1.2.2 Legal Description & Ownership

The Structure Plan Area comprises a single land holding with a total area of 5.67 hectares, legally described in **Table 2** below.

Refer Attachment 1 – Certificate of Title.

Lot	Address	Plan	Vol	Folio	Landowner
9012	Jayes Road, Piara Waters	DP 422253	4013	150	Celsius Land Syndicate #2 Pty Ltd

Table 2: Summary of Land.

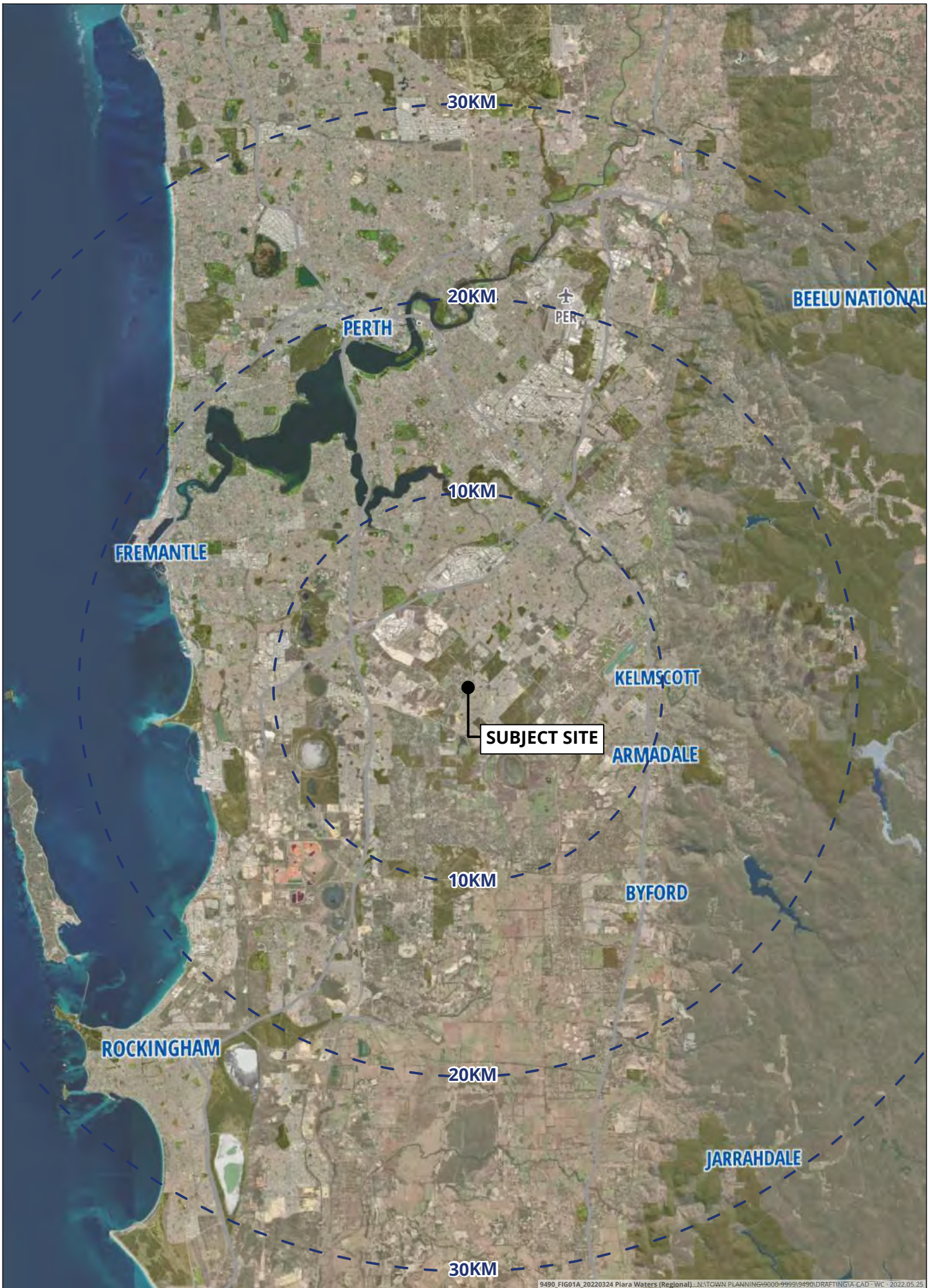
1.2.3 Area & Land Use

The land has historically been used for agricultural purposes. The land does not accommodate any dwellings or outbuildings. There is some remnant vegetation located on the western and southern site boundaries.

Refer Figure 4 – Site Plan and Attachment 2 – Feature Survey.

The subject land, and the broader West Piara Precinct, has historically been identified as a 'Priority 2' water source area (under the provisions of State Planning Policy 2.3 – Jandakot Groundwater Protection), which limited the intensity development within the locality. The precinct was broadly used for horse agistment and agricultural pursuits that has resulted in the land being largely cleared and disturbed. The land has been more recently classified to a Priority 3* water source area.

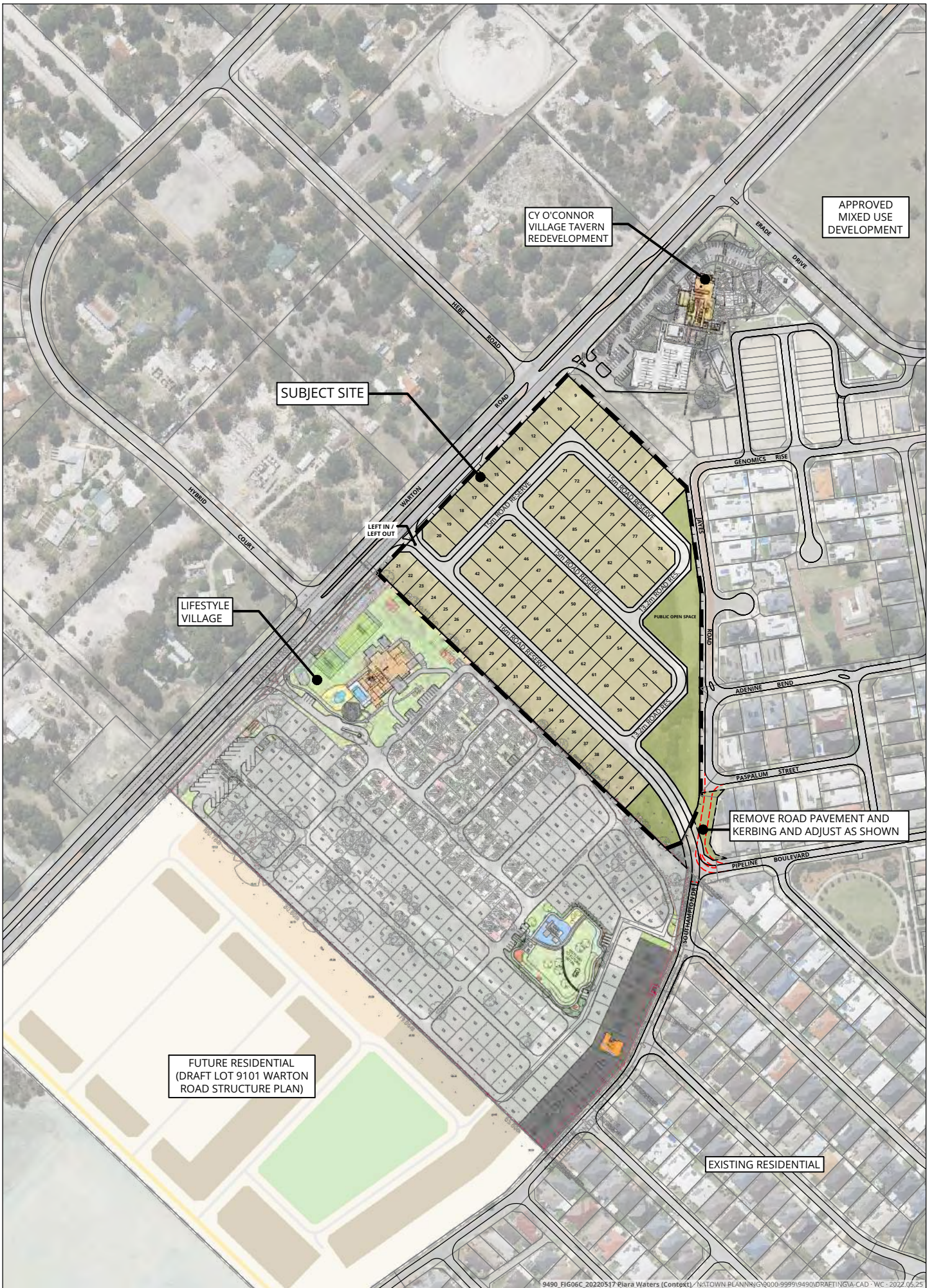




0 6250 m
SCALE @ A4: 1:250,000



FIGURE 1
REGIONAL LOCATION



9490_FIG06C_20220517 Piara Waters (Context) | WATOWN PLANNING\0000-9999\9490\DRAWING\A-CAD-WC-2022.05.25



0 100 m
SCALE @ A4: 1:4000



FIGURE 3
CONTEXT PLAN



0 62.5 m
 SCALE @ A4: 1:2500



FIGURE 4
 SITE PLAN

1.3 Background

The land forms a portion of the 'West Piara Urban Precinct', which was rezoned from 'Rural - Water Protection' to 'Urban' under the Metropolitan Scheme ('MRS') in December 2020 (MRS 1369/57). As aforementioned, the West Piara Urban Precinct had historically been identified as a 'Priority 2' Groundwater Protection Area under the provisions of State Planning Policy 2.3 - Jandakot Groundwater Protection ('SPP 2.3').

The MRS Amendment Request was supported by a District Water Management Strategy ('DWMS') demonstrating the precinct satisfied the criteria to amend the priority level to a lower 'Priority 3*' water source, and ultimately facilitated the rezoning of the land for urban purposes.

A separate request to amend the City of Armadale TPS 4 (Scheme Amendment 119) was approved and published in the Government Gazette on 2 December 2022. Scheme Amendment 119 ('SA 119') rezoned the West Piara Urban Precinct North (i.e., Lots 9010, 9101, 9007 and 9008) from 'General Rural' to 'Residential' and 'Urban Development' zones and included the subject land within Schedule 8 - Development (Structure Planning) Areas with a suite of additional provisions to be addressed.

1.4 Pre-Lodgement Consultation

Prior to the lodgement of this Structure Plan, the proponent undertook a number of pre-lodgement consultation meetings and discussions, including with Technical Officers from the City of Armadale, the developer of the Providence Lifestyle Village, the C.Y. O'Connor Tavern operators, and the adjoining landowners including the landowners of Lot 651 (No. 12) Paspalum Street.

The input of each of these key stakeholders was reviewed in detail and forms the formal, lodged Structure Plan proposal.



2. Planning Framework

2.1 Zoning & Reservations

2.1.1 Metropolitan Region Scheme

The subject land is zoned 'Urban' under the provisions of the Metropolitan Region Scheme ('MRS'), consistent with land to the east of Warton Road. Land west of Warton Road is zoned 'Rural – Water Protection' under the MRS. Nicholson Road is located approximately 380 metres north of the site and reserved as an 'Other Regional Road' under the MRS.

Refer Figure 5 – Metropolitan Region Scheme Zoning Plan.

The land forms a portion of the 'West Piara Urban Precinct', which was rezoned from 'Rural – Water Protection' to 'Urban' under the Metropolitan Scheme ('MRS') in December 2020 (MRS 1369/57). As aforementioned, the West Piara Urban Precinct had historically been identified as a 'Priority 2' Groundwater Protection Area under the provisions of State Planning Policy 2.3 – Jandakot Groundwater Protection ('SPP 2.3').

The MRS Amendment Request was supported by a District Water Management Strategy ('DWMS') demonstrating the precinct satisfied the criteria to amend the priority level to a lower 'Priority 3*' water source, and ultimately facilitated the rezoning of the land for urban purposes.

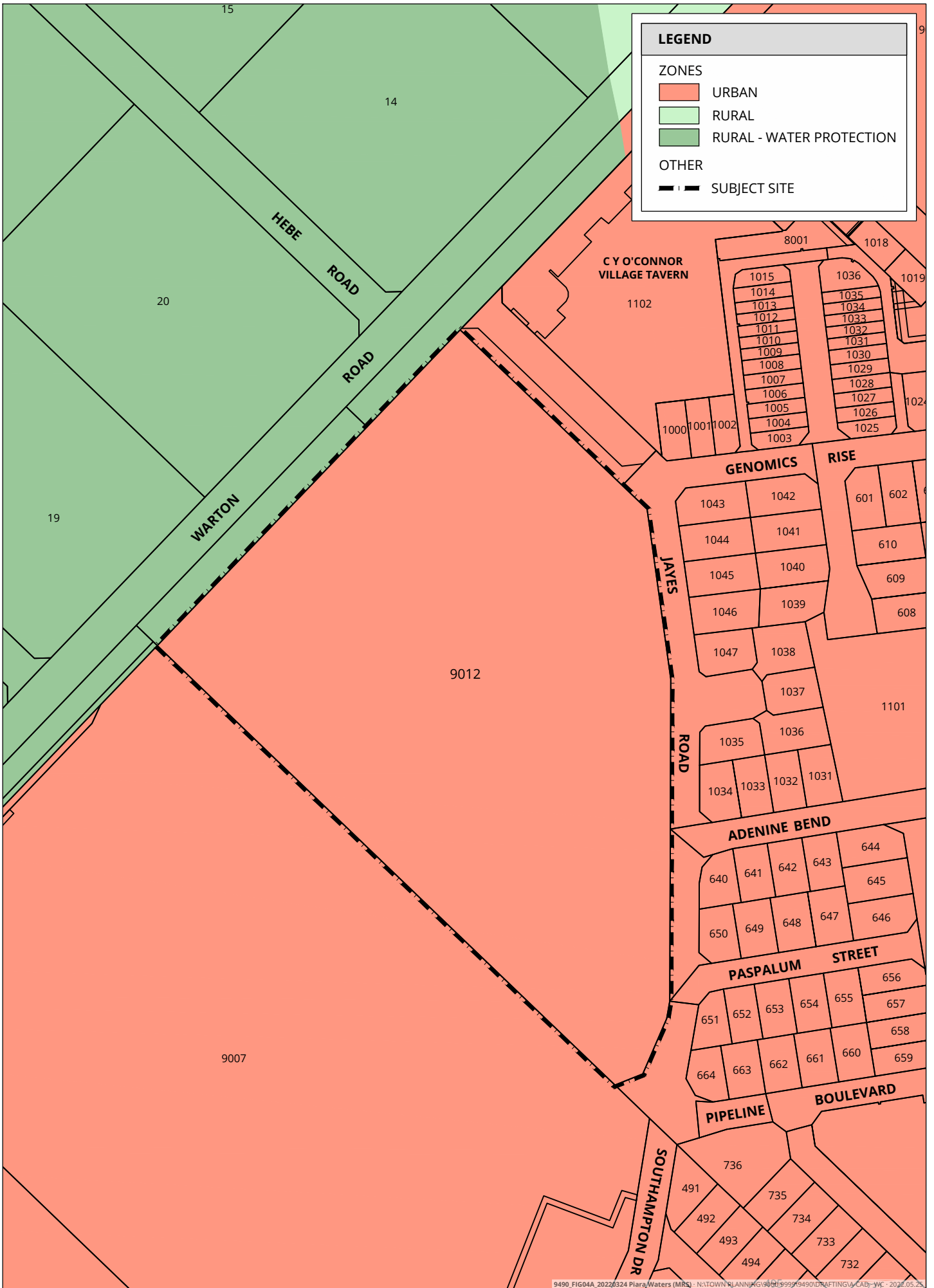
2.1.2 City of Armadale Town Planning Scheme No. 4

The subject land is zoned 'Urban Development' under the provisions of the City of Armadale Town Planning Scheme No. 4 ('TPS 4'), rezoned from 'General Rural' by Scheme Amendment 119 ('SA 119') on 2 December 2022. Land located west of Warton Road is zoned 'Resource' under the City of Cockburn Local Planning Scheme No. 3 ('LPS 3'). Land east of the subject land is zoned Residential R25 under TPS 4 and is subject to various Structure Plans.

Refer Figure 6 – Town Planning Scheme No. 4 Zoning Plan.

The land is also included within Schedule 8 – Development (Structure Planning) Areas of TPS 4 as Development Area 71. Schedule 8 sets out a suite of text provisions to be taken into account at local structure planning stage, which are summarised in **Table 3** overleaf.





9490_FIG04A_20220324 Piarra Waters (MRS) - N:\TOWN PLANNING\9490\9490_DRAFTING\CAD - WC - 2022.05.25

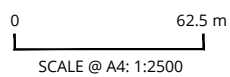


FIGURE 5
METROPOLITAN REGION SCHEME ZONING



0 62.5 m
SCALE @ A4: 1:2500



FIGURE 6
CITY OF ARMADALE TOWN PLANNING SCHEME No. 4 ZONING

Applicable Provision		Structure Plan Response
71.1	Subdivision and development of land is to generally be in accordance with a structure plan prepared and approved pursuant to Part 4 of the Deemed Provisions.	This Structure Plan is prepared in accordance with Part 4 of the Deemed Provisions.
71.2	Required Technical Studies to Guide Structure Plan	
71.2	The following plans are to be prepared and approved by the local government, used to inform the Structure Plan:	
a)	Local Water Management Strategy	Refer Attachment 3 – Local Water Management Strategy.
b)	Bushfire Management Plan	Refer Attachment 4 – Bushfire Management Plan.
c)	Acoustic Assessment	Refer Attachment 5 – Noise Impact Assessment.
d)	Environmental Management Plan	Refer Attachment 8 – Environmental Assessment Report.
71.3	Design and Management Responses Required as Part of Structure Plan	
71.3	The Structure Plan shall provide design and management responses for implementation through subdivision and development addressing:	
a)	Road intersections to Warton Road and Southampton Drive/Pipeline Boulevard for safe and efficient traffic distribution and congestion management, on the advice of the local government.	The structure plan proposes a new left in-left out intersection with Warton Road, which will be serviced by a new deceleration lane. In pre-lodgement consultation with the City of Armadale's technical staff, five (5) intersection options were investigated at the Southampton Drive/Pipeline Boulevard intersection. The Structure Plan proposes the extension of Southampton Drive through to a new 'access street c', and the closure and re-vesting of a portion of Southampton Drive (Jayes Road) to facilitate the safe and efficient movement of traffic within the precinct. Refer Section 4.4.2 and Attachment 10 (Traffic Impact Statement) to this report.
b)	High Pressure Gas Mains	The proposed development does not include any 'sensitive' land uses within the policy trigger distance for high pressure gas pipelines. Refer Section 4.8.4 and Attachment 11 (Engineering Servicing Report) to this Report.
c)	Visual Impact of Noise Attenuation Measures	The proposed Structure Plan will require a noise wall (up to 2.4 metres in height in some sections) generally along its Warton Road frontage. Refer Section 3.6 and Attachment 5 (Noise Impact Assessment) to this Report.
d)	Mosquito Management	A condition of Subdivision Approval will require the preparation and implementation of a Mosquito Management Plan. Refer Section 2.3.2 of this Report.

Table 3: Structure Plan Response to Schedule 8 Provisions.



2.2 Planning Strategies

2.2.1 South Metropolitan Peel Sub-Regional Planning Framework

The South Metropolitan Peel Sub-Regional Planning Framework (‘the Framework’) represents a whole of State Government approach to managing the future urban form within the sub-region and identifies sufficient land to meet the increased demand for residential dwellings. The South Metropolitan Peel sub-region is proposed to accommodate more than 1.26 million people, over 507,000 homes and approximately 430,000 jobs, with a projected additional dwelling target of 15,020 (33,040 people) within the City of Armadale.

The West Piara Urban Precinct (including the subject land) is identified for ‘Urban Investigation’ under the Framework, having regard to its strategic location (the rounding out of an existing urban area) and limited environmental or physical constraints. The Framework identifies the key considerations for future planning of the broader West Piara Urban Precinct in relation to the impacts, risks and management of Jandakot groundwater resources in relation to the existing Priority 2 Source Protection Area. This was a key consideration forming part of MRS Amendment 1369/57 and discussed further in Section 3.3.3 of this report.

The proposed Structure Plan proposes a residential land use on the subject land and is therefore consistent with the South Metropolitan Peel Sub-Regional Planning Framework.

2.2.2 City of Armadale Local Planning Strategy

The City of Armadale Local Planning Strategy (‘the Strategy’) was endorsed by the WAPC in December 2016, for the purpose of setting out the long-term planning and land use direction for the City. The Strategy identifies the subject land and the West Piara Urban Precinct as ‘Rural’ zoned and included as a ‘Drinking Water Protection’ area. This land use designation is consistent with the area previously included as a Priority 2 Groundwater Resource, and has since been classified to the lower, Priority 3 classification.

One of the key aspects of the Strategy is the City’s housing strategy having regard to the rapid growth and development in the municipality. In this regard, the Strategy sets out the following key objectives:

- Provide for a range of housing and opportunities for home businesses in neighbourhoods that are developed to good design principles;
- Meeting the housing targets identified for the City of Armadale set out in Directions 2031, including influencing a greater mix of housing product;
- Increased density for greenfield development to 15 dwellings per site hectare;
- Future urban growth to be focussed around employment centres, transit oriented developments and high frequency public transport corridors;
- Higher densities applied to localities with close proximity to community facilities and services; and
- New facilities, infrastructure and service provision assisted by appropriate forms of contributions from new developments.



The proposed development seeks to provide for residential development to an R25 – R30 density, which will effectively ‘round out’ the established Piara Waters residential area. R25 – R30 is considered an appropriate density that addresses both the State Government target (15 dwellings/site hectare), while providing consistency with the established Piara Waters residential development adjacent and recognising and responding to the amenity offered by the adjacent local centre. The Structure Plan will therefore achieve the outcomes set out in the City’s housing strategy.

2.3 State Planning Policies

2.3.1 State Planning Policy 2.3 – Jandakot Groundwater Protection

The subject land is classified as a Priority 3* Groundwater Protection Area (as reclassified from the higher Priority 2 Groundwater Protection Area) and is therefore subject to the principles and policy measures contained within State Planning Policy 2.3 – Jandakot Groundwater Protection (‘SPP 2.3’). SPP 2.3 seeks to protect the Jandakot Groundwater Protection Area from development and land uses that may potentially have a detrimental impact on the water resource.

The Department of Water (2016) Land Use Compatibility Tables for Public Drinking Water Source Areas Water Quality Protection Note No. 25, details urban residential land use as an acceptable land use within a Priority 3* area. The site’s location within the Jandakot Groundwater Protection Area therefore does not preclude residential development from occurring.

2.3.2 Draft State Planning Policy 2.9 – Planning for Water

The WAPC has prepared the draft State Planning Policy 2.9 – Water Resources (‘draft SPP 2.9’) and supporting Guidelines which were advertised for public comment in 2021. Draft SPP 2.9 and the associated Guidelines seek to consolidate and replace a number of existing state planning policies, including SPP 2.3 – Jandakot Groundwater Protection (‘SPP 2.3’), SPP 2.7 – Public Drinking Water Source Policy (‘SPP 2.7’) and the existing SPP 2.9 – Water Resources.

As with SPP 2.3, draft SPP 2.9 provides for a general presumption against the intensification of land uses in Priority 1 and 2 Water Source Protection Areas and notes that proposals to reclassify land will only be considered where the land is located within the MRS and has been identified for development through a strategic planning document prepared by the WAPC, such as a sub-regional planning framework or sub-regional structure plan. As previously discussed, the subject land has been rezoned for ‘Urban’ development under the MRS and is currently subject to a local scheme amendment proposal which would rezone the land to ‘Urban Development’ under TPS 4. In this regard, the land has been reclassified to a Priority 3* Water Source Protection Area.

A Local Water Management Strategy (‘LWMS’) has been prepared in support of the proposed Structure Plan to examine the site’s hydrological conditions and recommends a strategy for managing existing and future stormwater on site, in accordance with the recommendations included within the approved DWMS which was prepared to support the amendment to the MRS for the broader West Piara Waters Precinct. The LWMS demonstrates the site can be developed as proposed in accordance with the objectives of draft SPP 2.9 and without compromising any of the groundwater protection principles. Water management is further discussed in Section 4.5.

Refer Attachment 3 – Local Water Management Strategy.



2.3.3 State Planning Policy 3 – Urban Growth and Settlement

State Planning Policy 3.0 – Urban Growth and Settlement ('SPP 3') sets out the principles and considerations which apply to planning for urban growth and settlement. SPP 3 recognises:

The orderly planning of urban growth and settlement should be facilitated by structure plans, which should take into account the strategic and physical context of the locality, provide for the development of safe, convenient and attractive neighbourhoods which meet the diverse needs of the community, and facilitate the logical and timely provision of infrastructure and services. Structure Plans may consist of a hierarchy of plans ranging from broad district structure plans to more detailed plans for neighbourhoods and precincts.

Proposals for future urban growth will be determined having regard to:

- The State Planning Strategy, relevant statements of planning policy and regional and sub-regional strategies in the State Planning Framework;
- Population projections provided by the Department of Planning and Infrastructure;
- Land release plans published by the Commission; and
- Local planning strategies prepared by local government and endorsed by the Commission.

The proposed Structure Plan is consistent with the abovementioned objectives for future urban growth. Consideration of the strategic and physical context of the subject site is discussed further within this document and more detailed design provisions are to be addressed and considered at subdivision stage.

2.3.4 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

State Planning Policy 3.7 – Planning in Bushfire Prone Areas ('SPP 3.7') seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. Part of the site (along the north-west periphery) is identified by the Department of Fire and Emergency Services ('DFES') Map of Bush Fire Prone Areas as being 'bushfire prone' with the mapped bushfire risk coming from the adjacent areas of remnant vegetation.

Due to the subject site being identified as "bushfire prone", the principles and objectives of SPP 3.7 need to be considered as part of the structure planning process. A Bushfire Management Plan ('BMP') has therefore been prepared by Allarding and Associates in support of the proposed Structure Plan. Refer Section 3.4 of this Report for further detail.

Refer Attachment 4 – Bushfire Management Plan.

2.3.5 State Planning Policy 5.4 – Road and Rail Noise

State Planning Policy 5.4 – Road and Rail Noise ('SPP 5.4') seeks to mitigate and manage road and rail noise attributed to import freight/travel routes within the state, through the use of appropriate land use planning and acoustic requirements. Warton Road is an identified Strategic or Other Freight Route within SPP 5.4, and accordingly, the provisions of SPP 5.4 are applicable to future sensitive (residential) development of the site.



Accordingly, a Noise Impact Assessment has been prepared by Lloyd George Acoustics in support of the proposal and is discussed in detail at Section 3.6 of this report.

Refer Attachment 5 – Noise Impact Assessment.

2.3.6 Liveable Neighbourhoods

Liveable Neighbourhoods represents the WAPC's primary policy to guide the design and assessment of residential structure plans and subdivision. The underlying objective of Liveable Neighbourhoods is to create safe, sustainable and attractive neighbourhoods with a strong site responsive identity that reduces dependency on private vehicles and are more energy and land efficient. As such, Liveable Neighbourhoods seeks to promote an urban structure based on walkable, mixed-use neighbourhoods with interconnected street patterns. It functions by drawing together key policy aspects into a single 'integrated planning and assessment policy' to provide for a performance-based approach to planning assessment. These aspects include:

- Community;
- Movement;
- Lot Layout;
- Urban Water Management;
- Public Open Space; and
- Schools.

Liveable Neighbourhoods identifies a series of objectives and requirements for structure plans that, when met, demonstrate compliance with the overall outcomes sought by Liveable Neighbourhoods. These objectives and requirements relate to items such as road layout, relationship of housing to open space and schools, school location and distribution, public open space layout and location and housing densities.

Working with the site constraints, the Structure Plan has been prepared to satisfy the various objectives and requirements of Liveable Neighbourhoods to ensure more detailed proposals at subdivision stage are also capable of satisfying the relevant criteria.

2.3.7 Draft Development Control Policy 4.3 – Planning for High Pressure Gas Pipelines

The WAPC's draft Development Control Policy 4.3 – Planning for High Pressure Gas Pipelines ('DCP 4.3') was prepared to provide guidance for planning within the vicinity of high-pressure gas pipelines in Western Australia. Draft DCP 4.3 was advertised for public comment in February 2017 and is awaiting final approval.

The north-western portion of the Structure Plan area is contained within the trigger distance to a high-pressure ATCO gas main located within the western verge of Warton Road. ATCO lodged a submission during the public consultation period for Scheme Amendment 118 and 119 to TPS 4. In relation to the Warton Road gas pipeline, ATCO have advised that 'high density community use' land uses are not permitted within 42 metres of the high pressure main. 'High Density Community Use' is defined under Australian Standard 4645.1:2018 ('AS 4645') as:



“High density community use areas include areas where buildings of four or more storeys are prevalent, major shopping centres, schools, hospitals, aged care facilities, major sporting and cultural facilities. Public infrastructure (e.g. roads and railways, trafficable tunnels) in direct proximity of the high density community use area is also deemed to be part of the high density community use area.”

AS 4645 further clarifies that ‘high density’ in terms of residential development relates to approximately 50 dwellings per hectare. The Structure Plan proposes a residential density of R25 – R40 and therefore meets the criteria for development within a DCP 4.3 policy trigger area.

2.4 Local Planning Policies

2.4.1 Local Planning Policy 2.4 – Landscape Feature and Tree Preservation

The City’s Local Planning Policy 2.4 (‘LPP 2.4’) was prepared for the purpose of providing a framework to promote the retention of significant trees or landscape features throughout the development process, and in particular within public open space, drainage corridors and road reserves. LPP 2.4 recognises the importance of significant trees and landscape features on the character of the area.

In this regard, a Preliminary Tree Assessment was undertaken by Arboribus Consulting to identify whether any ‘significant’ trees (trees with trunk diameter of greater than 300mm) were worthy of retention. A total of 88 trees on the subject land were identified and assessed against key retention criteria (age status, useful life expectancy, canopy health, canopy structure and pest and diseases). The report concludes that 63 per cent of the trees on site were categorised as ‘Optimal’ or ‘Acceptable’ for potential retention. Detailed arborist reporting is required as part of detailed subdivision design to confirm the trees are capable of retention.

Notwithstanding the need for detailed arborist reporting at detailed design stage, the project team have identified a number of existing trees within the drainage and public open space areas to be retained. The proposed drainage, landscape and earth working strategies are designed to provide for retention of approximately 17 high/medium quality significant trees.

Refer Attachment 6 – Preliminary Tree Report.

2.4.2 Local Planning Policy 2.9 – Landscaping

The City’s Local Planning Policy 2.9 (‘LPP 2.9’) has been prepared for the purpose of ensuring future development sites positively contribute to the landscape amenity of the City of Armadale. Clause 3 sets out the objectives of the policy, as follows:

- To conserve and enhance the natural environmental and biodiversity attributes of the district by incorporating environmental principles into public and private decision making.
- To provide applicants with guidance and requirements on landscaping design and appropriate tree/plant selection in accordance with the City’s Urban Forest Strategy.
- To provide a common theme for landscaping throughout the City that encourages the enhancement of biodiversity in accordance with the City’s Urban Forest and Biodiversity Strategies.



- To provide for climate change adaption by using native plants that use less water and which provide cooler microclimates.

A Landscape Master Plan has been prepared by Plan-E in support of the Structure Plan, detailing the indicative treatment of the streetscape, drainage basins and public open space reserves. The Landscape Master Plan provides for a mix of existing retained trees, new shade trees and smaller trees, along with turfed areas, garden beds and swale plantings. The Master Plan ultimately provides for both passive and active open space, an urban canopy over the proposed subdivisional roads and water sensitive drainage basins.

Refer Attachment 7 – Landscape Master Plan.

2.4.3 Local Planning Policy 3.10 – Residential Design Codes Variations and R-MD Codes

Local Planning Policy 3.10 – Residential Design Codes Variations and R-MD Codes ('LPP 3.10') was prepared by the City of Armadale to reflect the variations to the Residential Design Codes for medium density development, as specified in the WAPC's Planning Bulletin 112/2016 – Medium Density Single House Development Standards – Development Zones ('PB 112'). In this regard, the policy sets out variations to the deemed to comply requirements for setbacks, open space, garage widths, front fences, visual privacy and solar access for land zoned 'Urban Development' and identified for residential development between R25 – R60 on structure plans.

In this regard, development of single houses within the Structure Plan Area will be subject to the provisions of LPP 3.10.



3. Site Conditions & Constraints

The following provides a summary of the environmental site conditions and constraints, based on the findings of the Environmental Assessment Report prepared by Western Environmental.

Refer Attachment 8 – Environmental Assessment Report.

3.1 Biodiversity & Natural Area Assets

3.1.1 Flora & Vegetation

Due to historic clearing and excavation activities which have been undertaken across the subject land, the Structure Plan Area does not contain any flora or vegetation of ecological significance. The land comprises generally ‘open paddock’ vegetation type, with a number of non-native trees throughout the land, generally on-site boundaries planted to provide windbreaks.

Four broad vegetation/ habitat types were identified on the subject land by Western Environmental:

- Flooded Gum over Paddock (completely degraded condition);
- Melaleuca Dampland (completely degraded condition);
- River Red Gum over Paddock (completely degraded condition); and
- Paddock (completely degraded condition).

No vegetation types identified within the subject land are consistent with the structural or species composition descriptions for any threatened or priority ecological communities.

A Preliminary Tree Assessment was undertaken by Arboribus to identify whether any of the existing mature trees on site (those with a trunk diameter greater than 300mm) were capable of retention. A total of 88 trees on the subject land were surveyed, with the majority being considered to be in ‘Good’ or ‘Reasonable’ health. The results of this assessment have been incorporated into the civil/construction strategy, water management strategy and landscape master plan. Detailed arborist reporting at subdivision design stage will further determine potential tree retention.

Refer Attachment 6 – Preliminary Tree Assessment.

3.1.2 Fauna

Given the lack of significant vegetation across the subject land, it is unlikely that any significant habitat exists for native fauna within the Structure Plan Area.

A field survey in accordance with the Commonwealth Referral Guidelines for Threatened Black Cockatoos was undertaken by Western Environmental which concluded that no evidence of Black Cockatoo breeding or foraging habitat was observed, and no on-site vegetation is considered suitable to accommodate this.

3.1.3 Wetlands

There is a Multiple Use category wetland (UFI 14155) mapped over the southern corner of the Structure Plan Area, which is generally characterised as being highly disturbed and retaining little



environmental value and is suitable for development. Notwithstanding, the extent of the wetland generally aligns with a proposed drainage reserve, which will be revegetated with native plantings.

3.2 Landform & Soils

The subject land is generally flat, sloping gently in an outward direction to the site boundaries, attributed to the former excavation activities on the site. The ground surface ranges between approximately 26.9m Australian Height Datum ('AHD') to 29m AHD, generally reflecting a slope of approximately 1:5 on the site boundaries.

The surface geology of the subject land is classified as Bassendean Soils, comprising:

- S8 sand: White to pale grey at surface yellow at depth fine to medium-grained moderately sorted subangular to sub-rounded minor heavy minerals of eolian origin; and
- S10 sand: As S8 over sandy clay to clayey sand of the Guilford Formation of eolian origin.

3.2.1 Acid Sulphate Soils

The Department of Water and Environmental Regulation ('DWER') Acid Sulphate Soil Risk Mapping identifies the subject land as having a 'low to moderate' risk of acid sulphate soils occurring within 3-metres of the natural ground surface.

Having regard to the historical use of excavation and filling activities on site, detailed testing of soils and groundwater was undertaken, and demonstrated no properties of Acid Sulphate Soils were identified.

3.2.2 Contamination

DWER's Contaminated Sites Database does not list the Structure Plan Area as being a known or suspected contaminated site.

Having regard to the history of imported material used on the site, further investigations have been undertaken by the proponent to ensure the risk of soil and groundwater contamination is minimal. In this regard, no asbestos or uncontrolled fill material were on detected on the land by either of the two separate geotechnical studies or the separate intrusive environmental site assessment. Subsequent laboratory investigations confirmed no contamination was recorded across the site for all parameters. No further assessment of contamination is required to support development of the site.

3.2.3 Mosquito Management

The subject land has been identified as having the potential for midge and mosquito nuisance and public health issues. A Mosquito Management Plan will be required as a condition of subdivision approval, prepared in accordance with the Department of Health's Template and Guidance Notes and approved by the City of Armadale.



3.3 Groundwater & Surface Water

3.3.1 Groundwater

A DWMS was prepared by JDA in support of the MRS Amendment for the West Piara Waters Urban Precinct and was approved by DWER in 2020. The DWMS identified an Average Annual Maximum Groundwater Level ('AAMGL') of approximately 26.65m AHD in the northern portion of the site and approximately 26.6m AHD in the southern portion.

3.3.2 Surface Water

There are no surface water features within the site.

3.3.3 Public Drinking Water Source Areas

As aforementioned, the subject land and the broader West Piara Waters Urban Precinct was previously classified a Priority 2 Public Drinking Water Source Area within the Jandakot Underground Water Pollution Control Area (the Jandakot Groundwater Protection Area). The Request to amend the MRS to rezone the land from 'Rural - Water Protection' to 'Urban' was supported by a detailed DWMS, demonstrating the management measures to be applied to appropriately accommodate proposed urban/residential land uses and minimise the risk to water quality and public health. Accordingly, the land was reclassified to the lower Priority 3* classification.

3.4 Bushfire Hazard

The site is identified as 'Bushfire Prone' on the Department of Fire and Emergency Services ('DFES') Map of Bushfire Prone Areas. Accordingly, this Structure Plan is supported by a Bushfire Management Plan ('BMP') prepared by Allerding and Associates. The BMP has been prepared to address the requirements of SPP 3.7 and the associated Guidelines for Planning in Bushfire Prone Areas (v1.4).

Refer Attachment 4 - Bushfire Management Plan.

The BMP confirms bushfire risk is capable of being appropriately mitigated to achieve compliance with the Guidelines. The main considerations relating to bushfire management within the Structure Plan are set out in **Table 4**.

Having regard to the above and the information provided within the BMP, Allerding and Associates consider the bushfire hazards within and adjacent to the Structure Plan area and associated bushfire risks are readily manageable through the standard management responses outlined within the Guidelines and Australian Standard 3959 - Construction of Buildings in Bushfire Prone Areas ('AS 3959'). These responses have informed the Structure Plan design and staging, to ensure a suitable, compliant and effective bushfire management outcome is achieved for the protection of future life, property and environmental assets.



Bushfire Protection Criteria	Proposed Bushfire Management Strategies
Element 1: Location	Based on the indicative subdivision layout, all future dwellings constructed within the Structure Plan area can be located such that the maximum BAL ratings within the site are BAL-29 or less. A large portion of the site has a post development rating of BAL-LOW due to the expansive residential area and managed public open space.
Element 2: Siting and Design	Based on the indicative subdivision layout, all future dwellings constructed within the Structure Plan area can be located such that the maximum BAL ratings are BAL-29 or less.
Element 3: Vehicular Access	The site will have good access both internally and to the existing road network when all roads have been constructed. The new Access Street C (Southampton Drive extension) will provide a direct connection to Warton Road, which provides egress in both north-east and south-west directions.
Element 4: Water	Future residential lots within the site will be serviced by a reticulated water supply and water hydrant network. Fire hydrants will be spaced according to Water Corporation and DFES standards and provide emergency services with access to adequate water supply.

Table 4: Bushfire Protection Criteria Compliance Table.

3.5 Heritage

3.5.1 Aboriginal Heritage

A search of the Department of Planning, Lands and Heritage Aboriginal Inquiry system identified no registered Aboriginal Heritage Sites within the subject land. The mapping identifies a 'lodged' feature over the northern corner of the subject land, which relates to Site No. 4339 – Warton Road, Banjup (Artifacts/Scatter). No formal assessment of the site has been undertaken and the site is not a Registered Site under the *Aboriginal Heritage Act 1972*. It is understood from correspondence with the City of Armadale that the feature does not intersect with the Structure Plan area.

3.5.2 European Heritage

A search of the Council of Western Australia's Register of Heritage Places identified no sites of State heritage significance within the subject land or immediate surrounds.

A search of the City of Armadale Municipal Heritage Inventory identified no sites of local heritage significance within the subject land or immediate surrounds.

3.6 Environmental Noise

In accordance with Provision 71.2 d) of the Schedule 8 – Development (Structure Planning) Area provisions, a Noise Impact Assessment has been prepared by Lloyd George Acoustics to review the impact of noise generated by Warton Road (in accordance with SPP 5.4) and the adjacent kennel zone (west of Warton Road).

Refer Attachment 5 – Noise Impact Assessment.



3.6.1 Kennel Noise

The Structure Plan Area is in the proximity of four (4) operating dog kennels located on the western side of Warton Road. Accordingly, the Noise Impact Assessment has undertaken a review of the noise generated to ensure future sensitive development can achieve compliance with the relevant noise levels set out within the *Environmental Protection (Noise) Regulations 1997*.

Based on the noise measurements and modelling undertaken by Lloyd George Acoustics, the Assessment determines that the majority of the Structure Plan Area will be impacted by noise generated by the kennels. The following noise mitigation recommendations are made:

- Quiet house design packages (with a specialist architectural package recommended for the Structure Plan area – refer Figure 5-5 of the Noise Impact Assessment); and
- Notifications on Title (as required by Figure 5-5 of the Noise Impact Assessment).

3.6.2 Road Traffic Noise

As aforementioned, the Structure Plan Area is located within the SPP 5.4 policy trigger distance for Warton Road. Accordingly, a Noise Impact Assessment is required to confirm that future sensitive land uses (residential dwellings) are capable of achieving the noise targets for outdoor and indoor noise.

The Noise Impact Assessment determined that a number of proposed lots within the Structure Plan Area will require mitigation methods in order to achieve compliance with the outdoor noise levels, including:

- Construction of an acoustic barrier (noise wall) along the Warton Road site boundary, ranging in heights between 1.8 metres and 2.4 metres;
- Quiet house design packages (refer figures 5-1 and 5-2 of the Noise Impact Assessment); and
- Notification on Title (all affected lots).

All lots within the Structure Plan Area are capable of achieving compliance with the noise targets (indoor and outdoor) required and is therefore meets the objectives set out within SPP 5.4.

4. Land Use & Subdivision Requirements

4.1 Land Use

The Structure Plan sets out the land use, residential densities, public open space, vehicle and pedestrian access, environmental considerations, hydrological and servicing requirements.

The subject land benefits from a high degree of existing and future amenity, including the existing C.Y. O'Connor Village and the redeveloping C.Y. O'Connor Tavern; as well as the approved Mixed-Use Development north of Erade Drive. In this regard, the Structure Plan acknowledges the significant role that the subject land plays in promoting pedestrian activity and providing for a walkable environment for not only its future population, but also the existing Piara Waters residential area and the future West Piara Waters urban population.

With pedestrian connectivity being a key design objective, the Structure Plan seeks to facilitate a linear network of public open space to its eastern boundary. The public open space network will provide for both an attractive walking environment, as well as passive, active and drainage areas which are shaped around the retention of existing trees. In this way, the residential development contemplated by the Structure Plan will have a green outlook and provide surveillance over the pedestrian connection corridor intended to be utilised by the broader population.

Based on the above, the Structure Plan provides for:

- A yield of approximately 86 dwellings with residential density of between R25 and R40;
- A linear open space network comprising approximately 7,040m² to promote pedestrian activity in the broader Piara Waters precinct;
- A new left in-left out intersection to Warton Road and associated lower order grid network; and
- The closure of a portion of Jayes Road to be revested for public open space.

The following sections describe the design responses underpinning the Structure Plan and address the relevant elements of Liveable Neighbourhoods. Refer to the Land Use Summary Table provided within the Executive Summary to this report.

Refer Plan 1 – Structure Plan.

4.2 Residential

The Structure Plan proposes a residential density code of R25 be applied across the extent of the subject land, with pockets of R40 fronting the public open space. The density code is proposed in response to a Subdivision Concept Plan prepared to support the Structure Plan. The Subdivision Concept Plan is designed to ensure an efficient configuration of lot sizes, with lot dimensions that are consistent with the market standard for project home builders and supply a diversity of lot product, therefore providing lots that are easier and more affordable to develop.

Refer Attachment 9 – Subdivision Concept Plan.



Based on indicative subdivision design, consistent with the current market realities for the site, the proposed Structure Plan is more likely to achieve a density of 24.2 dwellings per residential site hectare and 15.2 dwellings per gross urban hectare. This is consistent with the targets specified under Liveable Neighbourhoods, being 15 dwellings per gross urban hectare and 22 dwellings per residential site hectare.

Based on the indicative dwelling yield of 86 dwellings (based on the Subdivision Concept Plan), the Structure Plan area is likely to accommodate 258 persons based upon 3 persons per household (2016 Census).

4.3 Public Open Space

The Structure Plan provides for a linear public open space reserve, designed to promote and provide for a high amenity pedestrian corridor, being the link between the broader residential area and the commercial amenities offered by the C. Y. O'Connor Village. The Structure Plan Area provides for approximately 7,039m² of public open space within the subject land, with an additional 722m² proposed outside of the Structure Plan boundaries (i.e., the proposed revesting of a portion of Jayes Road).

The public open space network has been designed to facilitate the retention of existing trees where possible and suitable, provide for passive and active recreation opportunities and the required drainage functions (1:5-year ARI and 1:100-year ARI retention).

A Landscape Master Plan has been prepared by Plan-E in support of the Structure Plan, detailing the proposed landscaping treatments. The Master Plan has been prepared with input from Waterinsight (hydrology), Peritas (engineering) and Arboribus (arborist) with respect to a strategy to promote the retention of suitable trees in the public open space. In this regard, the plan identifies the potential for retention of 17 'high / medium' quality trees (subject to detailed arborist input).

Refer Attachment 7 – Landscape Master Plan.

In summary, the Structure Plan Area will provide for approximately 9.08 per cent (5,013m²) unrestricted open space and 0.92% (506m²) of restricted open space, totalling 10.01 per cent public open space. This will be refined at subdivision stage. All of the proposed lots will be located within 250-metres of an area of public open space. The proposed Structure Plan is therefore consistent with the parkland requirements of Liveable Neighbourhoods, with all of the proposed lots being within safe walking distance to public open space.

Refer Table 5 – Public Open Space Schedule.

4.3.1 Southampton Drive Closure

The Structure Plan proposes the closure of a portion of Southampton Road, with this area proposed to be revested for public open space. This would provide for an additional 722m² of unrestricted public open space (landscaping). The proposal has been brought about in response to the broader traffic and connectivity planning for the area, particularly having regard to the requirement for a new intersection to Warton Road and the associated neighbourhood connector within the Structure Plan area. This is further discussed in Section 4.4 of this report.



Lot 9012 Jayes Road, Piara Waters Public Open Space Schedule				
Site Area (Structure Plan Boundary)				5.67 ha
Deductions				
Drainage (1:1 year)		0.15 ha		
Total			0.15 ha	
Gross Subdivisible Area				5.52 ha
Public Open Space @ 10%				0.55 ha
Public Open Space Contribution				
May comprise:				
Min 80% unrestricted POS			0.44 ha	
Min 20% restricted use POS			0.11 ha	
Total Required Public Open Space				0.55 ha
POS Reference Number	Total POS Area (m ²)	1:1 Year Drainage (m ²)	Unrestricted POS sites (m ²)	Restricted POS sites (m ²)
POS A	5,899	986	4,404	455
POS B	1,140	534	555	51
Total	7,039	1,520	5,013	506
Percentage of gross subdivisible area	10.0%		9.08%	0.92%
Total Public Open Space Provided				10.0%
<p>Notes:</p> <ol style="list-style-type: none"> 1. This Public Open Space Schedule is based on the Public Open Space Plan prepared by Rowe Group (Plan ID: 9490-CON-04-E). 2. This Public Open Space Schedule is based on the drainage assumptions as per the Local Water Management Strategy prepared by Water Insight dated 26 October 2022 (Ref: 2146AA Rev 4). 				

Table 5: Public Open Space Schedule.

4.4 Movement Network

4.4.1 Existing Road Network

Warton Road

Warton Road, which runs along the north-west boundary of the subject land, is a 'District Distributor A' classified road under the Main Roads WA road hierarchy and constructed to an 'Integrator Road A' standard. It comprises a dual divided carriageway with a sign posted speed limit of 80km/hr. Warton Road also forms part of the Restricted Access Vehicles ('RAV') Network No. 4, which accommodates heavy vehicles up to 27.5-metres in length.

Traffic counts undertaken in 2019/2020 indicated that Warton Road (west of Nicholson Road) carried approximately 22,626 vehicles per day.

Southampton Drive

Southampton Drive abuts the subject land to its southern corner and is classified an 'Access Street' under the Main Roads Road Hierarchy. It is currently constructed as a single carriageway local road with a 6-metre pavement and a default speed limit of 50km/hr.

Jayes Road

Jayes Road abuts the Structure Plan area on its eastern boundary and is classified an 'Access Street'. It comprises a single carriageway access road with a 6-metre pavement and a pedestrian path within its eastern verge. Jayes Road is subject to the default built up speed limit of 50km/hr.

4.4.2 Proposed Road Network

Traffic reporting prepared in support of MRS Amendment 1369/57 provided for a high-level strategy for intersections with Warton Road, being limited to Mason Road (south of the high school) and an intersection north of the high school. Given the approved Lifestyle Village to the south of the subject land did not include a Warton Road intersection, there is a requirement for the 'northern' Warton Road intersection to be included within the Structure Plan area. This intersection is contemplated at Provision 71.3a) of Schedule 8 of the Scheme, which reads as follows:

"Road intersections to Warton Road and Southampton Drive/Pipeline Boulevard for safe and efficient traffic distribution and congestion management, on the advice of the local government."

In this regard, concept planning for the Structure Plan area was guided by the need to provide a new intersection to Warton Road, and further, the need for a safe and efficient connection to the existing road network (being Jayes Road, Southampton Drive and Pipeline Boulevard). Five (5) intersection options were investigated by the project team in consultation with the City of Armadale.

The outcome of these intersection investigations has informed the Structure Plan's movement network, which proposes:

- A new 'Access Street C' road providing for a new left in-left out intersection to Warton Road, and which will become an extension to the existing Southampton Drive; and
- The closure of a portion of Southampton Drive, with this land to be revested as public open space. In this regard, Jayes Road (technically Southampton Drive) would be reconfigured to terminate at the intersection with Paspalum Street.



The internal road hierarchy proposed for the Structure Plan area has been determined by modelling based on the Subdivision Concept Plan (Attachment 9). It provides for simple and efficient vehicle movement throughout the site, and allows for regular shaped lots, and as such the Structure Plan area generally comprises a grid network of access streets. The indicative road network is proposed to comprise the following road classifications:

Road Classification	Indicative Upper Traffic Volume	Indicative Road Reserve Width
Access Street C (Southampton Drive extension)	<3,000 vpd	16-metres
Access Street D	<1,000 vpd.	15-metres

Table 6: Proposed Road Classifications.

The proposed road network comprises a road hierarchy generally consisting of 'Access Street D' classified roads, designed to a 15-metre cross section. Where services are only required to one side of the road (i.e., adjacent areas of public open space) a reduced cross-section of 13.2-metres is proposed. The proposed extension to Southampton Drive is proposed as a 16-metre cross section, consistent with the existing Southampton Drive reserve width as it adjoins the land.

The movement network, street block length and reserve widths are consistent with the requirements set out in Liveable Neighbourhoods, providing for connectivity and permeability through the site for both pedestrians and vehicles.

Traffic modelling for the Structure Plan area estimates the proposed development will generate between 696 and 931 vehicles per day, with approximately 70 vehicles per hour during the weekday peak period. There are no upgrades to the external network required in addition to the Warton Road intersection (turning pocket) and Jayes Road reconfiguration.

Transcore, as part of the Traffic Impact Assessment, has undertaken an analysis of the functionality and safety of all subdivisional intersections. In this regard, it confirmed that all proposed intersections meet the minimum separation distance required (30-metres). This includes the intersection between the most northern Access Street D and the Southampton Drive extension (Access Street C); though it is likely traffic calming measures (including paved and raised pavement at the intersection) would be required by the City of Armadale to further improve the safety of the locality.

Refer Attachment 10 - Traffic Impact Assessment.

4.4.3 Pedestrian And Cycle Network

In accordance with the requirements of Liveable Neighbourhoods, footpaths will be provided on at least one side of every street and connect in with the existing pedestrian paths within the Jayes Road and Warton Road reserves.

Given the relatively low traffic volumes anticipate within the Structure Plan Area, no designated cycle paths are proposed within the Structure Plan Area.



4.4.4 Public Transport

The Structure Plan Area is currently serviced by Transperth Bus route 519, with bus stops located on Nicholson Road, approximately 415-metres north-east of the subject land. Route 519 provides for bus services between Murdoch Station and Armadale Station.

4.5 Water Management

4.5.1 Local Water Management Strategy

A Local Water Management Strategy ('LWMS') has been prepared in support of this Structure Plan and is appended at **Attachment 3** to this report.

The LWMS has been prepared to provide guidance on wastewater, groundwater and stormwater management practices to inform the detailed design of the Structure Plan area in the context of the Priority 3* (Public Drinking Water Source Protection Area) classification of the area and is consistent with the District Water Management Strategy for the West Piara Waters Urban Precinct.

In accordance with the processes defined under Better Urban Water Management, an Urban Water Management Plan ('UWMP') will be required to be prepared and implanted as a condition of subdivision approval.

Refer Attachment 3 – Local Water Management Strategy.

4.5.2 Stormwater Management Strategy

The LWMS proposes the following stormwater management strategy, demonstrating the Structure Plan Area is capable of managing both the minor and major rainfall events. The LWMS seeks to achieve the following design objectives:

- Non-structural measures to reduce applied nutrient loads;
- At source retention of small storm events (15mm);
- Infiltration of stormwater runoff on lots, in road reserves and basins within POS areas up to the 100-year ARI storm event, with outflows where external catchment connections have been provided in adjacent residential estates;
- Water quality treatment systems and water sensitive urban design structures designed in accordance with the Stormwater Management Manual of Western Australia.

Small Storm Events (1 in 1-year ARI)

The small storm events (the first 15mm of stormwater runoff) will be infiltrated at sources through the use of soak wells within individual lots, with no connections to the road drainage network required or proposed. Stormwater runoff generated from road pavement will be discharged into biofilter swales located within the road reserves adjacent the public open space.

Minor Storm Events (1 in 5-year ARI)

The minor (20%) Annual Exceedance Probability ('AEP') rainfall event will be managed by a traditional pit to pipe drainage network which conveys stormwater to a network of drainage basins located within the public open space. The size, capacity and shape of these basins has been shaped to accommodate the potential retention of existing trees.



Major Storm Events (1 in 100-year ARI)

Consistent with the approved DWMS, the allowable discharge rate of the subject land (5.67ha) to the Balanup Drain (via the C. Y. O'Connor outlet) is 12.95 litres/second in the 1% AEP rainfall event. To facilitate this, a vegetated bioretention basin is accommodated within the public open space, prior to the piped discharge to the downstream network.

4.5.3 Groundwater Management Strategy

The LWMS is prepared to achieve the following design objectives for the groundwater management strategy:

- Subsoil drainage is proposed where a downstream outlet exists. Finished levels will be determined by a combination of imported fill and subsoil drainage;
- Limit groundwater abstraction;
- Manage fertiliser and pesticide application in streetscapes and POS areas using soil amendments, appropriate plant selection, limiting turf areas and maintenance management plans.

The historical Annual Average Maximum Groundwater Level ('AAMGL') for the Structure Plan Area is recorded at between 26.65m AHD in the south to 26.65m AHD in the northern portion of the site. Modelling within the DWMS anticipates a marginal increase of less than 0.5-metres to groundwater levels as a result of urbanisation in the area, which has been accommodated in the modelling of this LWMS.

Preliminary earthworks plan provides for finished lot levels of between 30.4m AHD and 30.2m AHD, providing for clearance to the MGL of between 1.6m (lots within the southern portion of the site) and up to 3.5m (lots adjacent Warton Road).

Subsoil drainage is not proposed within road reserves as part of this LWMS, however are proposed to be located beneath drainage basins within the public open space as a contingency measure to prevent groundwater level rise higher the historical MGL. These subsoil drains will outfall into the southern public open space basin (basin 1).

4.5.4 P3* Water Quality Protection Measures

DWER provides a list of water quality protection measures for P3* Drinking Water Source Areas, which are summarised in **Table 7** overleaf, together with the proposal's response to each of these.



Parameter	LWMS Requirement	Structure Plan Response
Land uses	High risk land uses (golf courses, service stations, bulk chemical storage handling, cemeteries) be avoided	The Structure Plan provides for Residential zoning only under the City of Armadale Town Planning Scheme No. 4. These land uses are not permitted in the Residential zone.
Sewerage	Development to be connected to reticulated sewer.	All lots will be provided with a connection to the existing Water Corporation reticulated sewer network.
Public Open Space	Public open space is designed to reduce demand on local water supply, fertilisers and pesticides.	Public open space will be landscaped using native species planting and native tree retention. Groundwater is proposed for irrigation of POS areas.
Stormwater and Groundwater Management	Use the Stormwater Management Manual for WA;	The proposed LWMS complies with the Stormwater Management Manual for WA.
	Urban Water Management Plan to be referred to DWER;	The UWMP will be referred to DWER.
	Not include conveyance stormwater infrastructure or sub soil drains that outlet into Wellhead Protection Zones;	All stormwater infrastructure is situated outside of Wellhead Protection Zones.
	Not include infiltration areas within Wellhead Protection Areas (if possible).	All stormwater infrastructure is situated outside of Wellhead Protection Zones.
Management chemicals, fuels, fertilisers and litter	Adequate contingency planning.	Contingency sub-soil drains included within POS.
	Fertiliser application rates and irrigation requirements should be matched to local soils and plant requirements, to manage leaching and contamination of local water resources.	Landscape Master Plan proposes predominantly native species planting to reduce fertiliser use.
	Only use clean fill that is suitable for protecting drinking water quality.	Clean fill, free from contaminants, will be used as required to fill the site and provide adequate separation to groundwater.
	Retain areas of existing native vegetation as much as possible.	The Structure Plan proposes retention of up to 17 existing mature trees (subject to detailed arborist reports).
	No underground fuel or chemical storage (i.e., no service stations).	The Structure Plan proposes a residential zone under TPS 4. Service Station is not a permitted use in the Residential zone.
Education and Awareness	Include PDWSA awareness raising strategies targeted at community, land sale purchasers and builders, such as brochures, signs and notices.	Purchasers to be provided with information brochure at time of purchase, including educational material regarding the importance of minimising use of fertiliser and pesticide.



Recycled Water	The use of recycled water is generally not supported.	Recycled water scheme not proposed to service the development.
Infrastructure	Infrastructure is planned, constructed and maintained to protect drinking water source, particularly wellhead protection zones.	Maintenance to be completed in accordance with City of Armadale requirements.
Bores	Bores need to be appropriately located and constructed to prevent contamination of the public drinking water source.	An Application to take water for irrigation has been lodged.
	Bores should not be located within Wellhead Protection Zones.	Bores to be located outside of Wellhead Protection Zones, in accordance with DWER License and associated conditions.

Table 7: Water Quality Protection Measures for P3* Drinking Water Source Areas.

4.5.5 Urban Water Management Plan

Consistent with the requirements of the LWMS and the Better Urban Water Management framework, an UWMP will be required as a condition of approval. In the context of the P3* classification of the subject land, LWMS makes a commitment for the UWMP to be referred to DWER for final approval.

While strategies have been provided within this LWMS that address planning for water management within the site, it is a logical progression that future subdivision designs and the supportive UWMP will clarify details not provided within the LWMS. The UWMP will provide the following information:

- Demonstrate compliance with the LWMS criteria;
- The subdivision plan;
- Landscape plans;
- Detailed stormwater modelling results including the location and sizing of all drainage infrastructure and required storage for the small storm, minor and major rainfall events;
- Engineering plans (including earthworks, roads and drainage infrastructure);
- Confirmation of reticulated water and sewer servicing;
- Management of groundwater levels including proposed fill levels;
- Management of subdivision works including development of a strategy for sediment control during construction and insitu permeability testing;
- Detail the implementation plan including roles, responsibilities, funding and maintenance arrangements; and
- Post development monitoring program and water quality criteria.



4.6 Education Facilities

No educational facilities are proposed within the Structure Plan Area.

Given the infill nature of the proposed development, the site is well catered for by the existing and planned public education facilities within the surrounding areas. The site currently falls within the Piara Waters Primary School local intake area (0.8 kilometres south-east of the site); however, the Structure Plan area is also within relatively close proximity to the following other public schools:

- Aspiri Primary School (2.1-kilometres south of the site);
- Harrisdale Primary School (2.3-kilometres east of the site);
- North Harrisdale Primary School (2.4-kilometres north-east of the site);
- Piara Waters Secondary College (900-metres south of the site) to open in 2023;
- Harrisdale Senior High School (2.1-kilometres south east of the site);
- Canning Vale College (4.2-kilometres north of the site).

There are also a number of private education facilities accessible from the subject site.

It is not anticipated the proposed lot yield would trigger the need for provision of any additional school facilities within the Structure Plan Area.

4.7 Activity Centres & Employment

The Structure Plan does not propose any activity centres or employment nodes.

The subject site directly abuts the Erade Village (Local Centre) to the northern boundary. Cockburn Central (District Centre) is located approximately 5.2 kilometres west of the subject land, and the Armadale District Centre is situated approximately 10.2 kilometres south-east of the subject land.

4.8 Infrastructure Coordination, Servicing & Staging

An Engineering Servicing Report has been prepared in support of this Structure Plan by Peritas Group.

Refer Attachment 11 – Engineering Servicing Report.

4.8.1 Power

The subject land is currently serviced by an existing underground high voltage and low voltage electricity connection located within the Jayes Road reserve. There are also existing aerial lines located within the Warton Road reserve.

All proposed residential lots will be serviced with underground electricity connections. The existing network has sufficient capacity to accommodate all proposed lots.



4.8.2 Water

There is an existing Water Corporation reticulated main located within the eastern verge of the Jayes Road reserve and in the western verge of Warton Road.

Preliminary enquiries with the Water Corporation have confirmed the existing water infrastructure has sufficient capacity to accommodate all of the proposed lots, and the network will be extended to service the proposed development as required.

4.8.3 Reticulated Sewer

There is an existing reticulated sewer main within the eastern verge of Jayes Road, which can be extended to service the proposed development. Preliminary enquiries with the Water Corporation have confirmed there is sufficient capacity available within the network to service all of the proposed development contemplated by the Structure Plan.

4.8.4 Reticulated Gas

There is an existing reticulated gas network located within the Jayes Road reserve, which will be extended to service the proposed development.

In addition to this, there is a high pressure (DN200) ATCO gas main located within the northern verge of Warton Road. Accordingly, a portion of the Structure Plan area falls within the 'policy trigger distance' of the draft Development Control Policy 4.3 – Planning for High-Pressure Gas Mains (as discussed in Section 2.3.7 of this report). The proposed residential land use does not fall within the definition of 'sensitive development' and is therefore able to be approved in this location.

4.8.5 Telecommunications

There is an existing telecommunications network located within the vicinity of the subject land, with National Broadband Network ('NBN') fibre optic network located within Warton Road. The subject land will be connected to the existing networks. The developer will install pit and pipe infrastructure within the service corridor of road reserves to accommodate a future high speed broadband network.

4.8.6 Siteworks & Earthworks

The high-level earth working strategy is designed to keep site grading and remodelling to a minimum where possible, and generally limited by adjacent roads, creation of building pads and associated works. It also seeks to facilitate the retention of existing trees where possible in public open space reserves.

Given the Structure Plan area remains generally undeveloped, the following works will be required to facilitate urban/residential development:

- Creation of the building pads for the proposed dwellings;
- Regrading the site to facilitate vehicle crossover points;
- Contouring of the land to suit geotechnical, landscaping and servicing requirements of the development;



- Filling of land to suit the proposed development, including soil improvement and sewer design levels;
- Filling of land to maintain a suitable freeboard to anticipated maximum groundwater levels.

4.9 Developer Contribution Arrangements

The City of Armadale are currently progressing an amendment to its Town Planning Scheme No. 4 (Scheme Amendment 115). Scheme Amendment 115 seeks to undertake major review of the current Development Contribution Plan No. 3 ('DCP 3'), which relates to the North Forrestdale precinct. As part of this review, SA 115 seeks to include the subject land, and the broader West Piara Waters precinct, within the Development Contribution Area No. 3 (DCA 3).

DCP 3 requires landowners within DCA 3 to contribute financially towards the provision of key infrastructure including road and drainage infrastructure, urban water management initiatives and multi-use community/sporting facilities. This is recognised in Part 1 of the Structure Plan.

